

What is claimed is:

1. An animal exhibiting pulmonary hypertension and/or pulmonary hypertension syndrome, the animal being produced by the administration of pulmonary vasculature-blocking particles to the pulmonary vasculature.
2. A process for producing a population of animals having increased resistance to pulmonary hypertension, the process comprising eliminating animals most susceptible to pulmonary hypertension induced by intravascular particle administration.
3. The process of claim 2 defined further as achieving genetic improvement in agriculturally important breeds.
4. Animals that are resistant to pulmonary hypertension produced by the process of claim 2.
5. A method of producing improved genetic breeding stocks in animals, the method comprising:
 - a) inducing pulmonary hypertension in animals by occluding the pulmonary vasculature with particulate substances of a size about 8 to about 250 micrometers in diameter injected into venous blood that carries the particles to the right cardiac ventricle pumping the blood containing the particles to the lungs, wherein the particles directly increase pulmonary vascular resistance

by lodging in small blood vessels, the heart being forced to develop and maintain an elevated pressure in the pulmonary arteries to propel the requisite cardiac output through vessels remaining unoccluded, animals that are susceptible to pulmonary hypertension subsequently developing pulmonary hypertension syndrome, and

b) separating susceptible animals from the resistant animals, the resistant animals being useful as genetic breeding stock resistant to pulmonary hypertension.

6. Genetic breeding stock produced by the process of claim 5.

7. Using the genetic breeding stock of claim 6 to produce cattle which are resistant to pulmonary hypertension.

8. Using the genetic breeding stock of claim 6 to produce broiler chickens which are resistant to pulmonary hypertension.

9. Using the genetic breeding stock of claim 6 to produce pigs which are resistant to pulmonary hypertension.

10. Using the genetic breeding stock of claim 6 to identify and characterize novel DNA allelic markers which indicate resistance to pulmonary hypertension.

11. Using the susceptible animals of claim 6 to identify and characterize novel DNA allelic markers that indicate susceptibility to pulmonary hypertension.
12. Using the genetic markers of claim 10 or 11 to identify animals with susceptibility or resistance to pulmonary hypertension.
13. Using the genetic markers of claim 10 or 11, to select breeding stock.
14. An assay or test for susceptibility or resistance to pulmonary hypertension utilizing the genetic markers of claim 10 or 11.
15. A method for producing a pulmonary hypertension resistant poultry strain comprising:
 - a) administering into the pulmonary circulation of immature poultry, particles having about 8 to about 250 μ M diameter in an amount sufficient to kill or disable animals susceptible to pulmonary hypertension; and
 - b) selecting and breeding healthy survivors to produce a pulmonary hypertension resistant poultry strain.